

2004 Propane Powered School Bus

PROJECT UPDATE

***Presented to the Clean Cities Conference
Fort Lauderdale, Florida
May 4, 2004***

***William Platz
Propane Vehicle Council***

2004 Propane Powered School Bus

Project Description:

- ***To Develop Sequential Port Fuel Injection System to Allow Conventional School Buses to Operate on Propane***
- ***Start Date: January 2003***
- ***Funding Partners Include:***
 - ***Propane Education and Research Council \$803,000***
 - ***Department of Energy \$200,000***
 - ***ProCon/PVC \$565,000 (Cash and in-kind to date)***

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Project Contractors Include:

- ***Millbrook Proving Ground (a wholly owned subsidiary of General Motors Corporation)***
- ***Clean Air Vehicles, LLC***
- ***Bi-Phase Technologies***
- ***Sleegers Engineering, Inc.***
- ***Les Entreprises Michel Corbeil, Inc.***

2004 Propane Powered School Bus

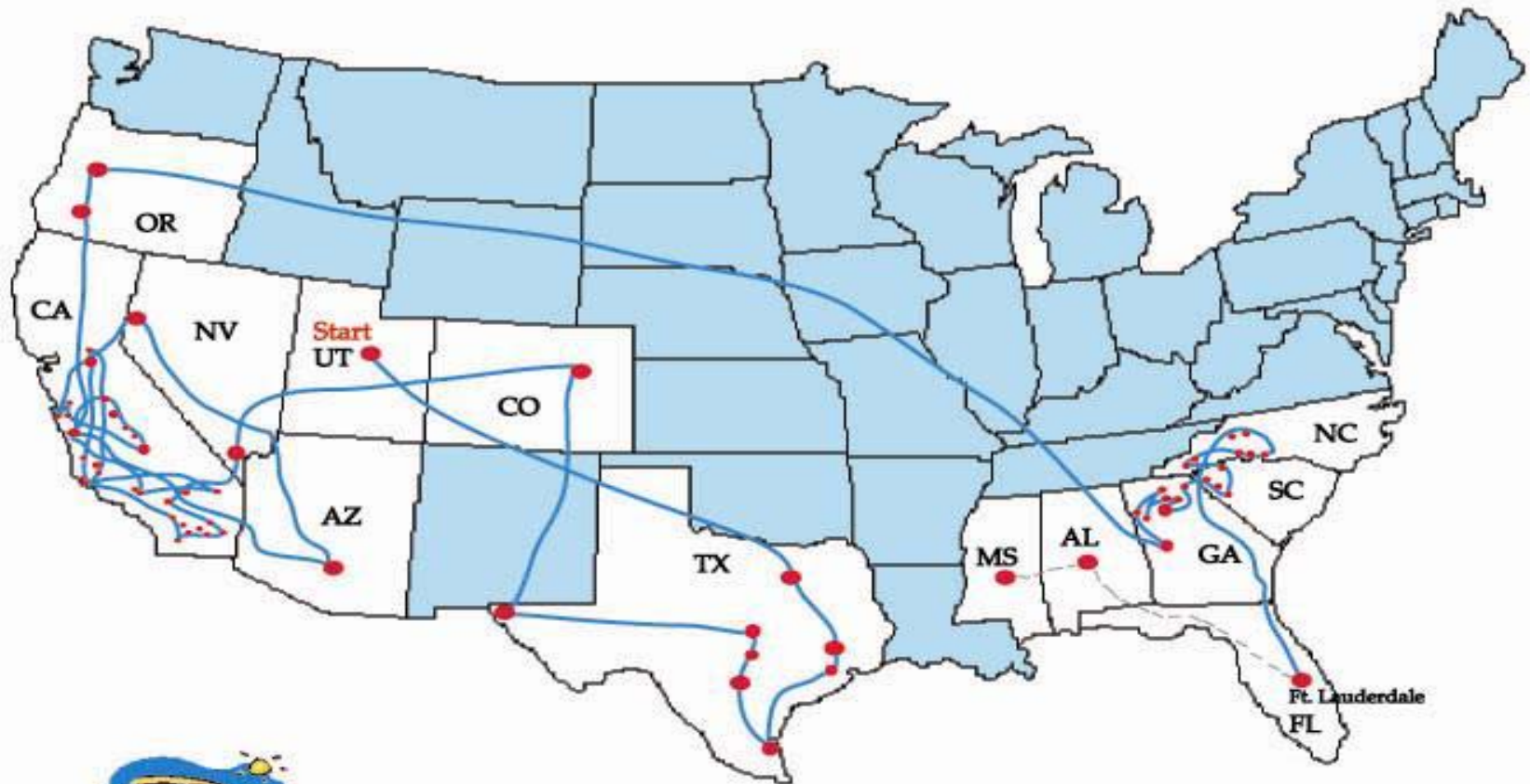
The Results:



2004 Propane Powered School Bus

- **GMC C5500 Chassis**
 - *26,000 pound GVWR, 8.1L Engine, 5 spd Automatic Trans*
- **Matches Gasoline HP and Torque Specifications**
 - *325HP, 450 ft-lb Torque*
- **Fuel Efficiency of 6 miles per gallon of propane!**
 - *Over 50 gallons of usable fuel on board within the FMVSS tested crash zone*
- **Has achieved 2004 EPA/ULEV and CARB Low NOx Certification**
 - *0.7 gm/bhp-hr HC+NOx criteria emissions*
- **2005 Certification will be complete by late summer**

U.S. SCHOOL BUS TOUR



WWW.PROPANESCHOOLBUS.COM

PROPANE
EXCEPTIONAL ENERGY®

16,000+ miles driven to date traveling to Clean Cities!

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WHY PROPANE?

- *Much of it Derived from Domestic Sources*
 - *Readily Available*
- *Great Energy Density (6 mpg)*
 - *Provides gallon for gallon offset from Gasoline*
 - *Offsets Diesel use by 75%*
- *Can Cost as much as 30% less than Gasoline*
- *Refueling Infrastructure costs much less*
- *Ultra Low Emissions*
 - *Very Low NOx*
 - *Zero Measurable PM*
- *Vehicle Cost Equal to Diesel*

2004 Propane Powered School Bus

- ***Orders Processed through Selected GM Commercial Truck Dealers***
 - ***“Ship Through Code” process***
 - ***Dealer will be service trained***
 - ***www.propaneschoolbus.com to coordinate***
- ***Body by Corbeil***
 - ***Available from 40 to 66 passengers***
 - ***Possible availability from US BUS, Girardin, MidBus***
- ***Fuel System Installation by Monroe Equipment***
 - ***Propane Liquid Fuel Injection***
 - ***GM Certified Vehicle Modifier***

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Other Platforms Available:

- ***19,000 to 26,000 GVWR Cab Chassis***
- ***Standard Configuration Shuttle***



- ***Low Floor Shuttle***
 - ***www.propaneshuttlebus.com***
 - ***www.propaneschoolbus.com***